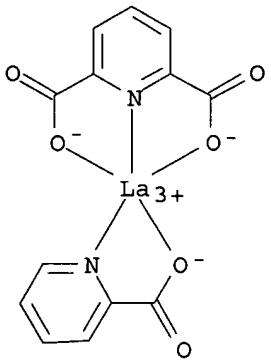
AN 2002172252 MEDLINE
DN 21901848 PubMed ID: 11904350
TI The role of trace elements in uraemic toxicity.
AU Vanholder Raymond; Cornelis Rita; Dhondt Annemieke; Lameire Norbert
CS University Hospital Gent, Department of Internal Medicine, Nephrology Division, De Pintelaan 185, B 9000 Gent, Belgium.. vanholder@rug.ac.be
SO NEPHROLOGY, DIALYSIS, TRANSPLANTATION, (2002) 17 Suppl 2 2-8. Ref: 55
Journal code: 8706402. ISSN: 0931-0509.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200208
ED Entered STN: 20020321
Last Updated on STN: 20020816
Entered Medline: 20020815
AB Although most research on uraemic toxicity has focused on the retention or removal of organic solutes, subtle changes in the concentration of inorganic compounds are also of importance because these compounds may have significant clinical consequences. Potential clinical implications include increased risk of cancer, cardiovascular disease, immune deficiency, anaemia, renal function impairment and bone disease. In uraemic patients, the most important factor affecting trace element concentration is the degree of renal failure and modality of renal replacement therapy. Accumulation of trace elements in haemodialysis patients has resulted from dialysate contaminated with aluminium and strontium. Several trace elements have been implicated in the decline of renal function. These include arsenic, cadmium, copper, germanium, lead and mercury. In uraemic patients, aluminium, cadmium, chromium, **lanthanum**, strontium and zinc have been shown to accumulate in **bone**. In addition to substantial evidence linking aluminium to renal osteodystrophy, studies have also implicated cadmium, iron and strontium in **bone** disease. Studies using a rat model of chronic renal failure have demonstrated an association between **lanthanum** accumulation and mineralization defects characteristic of **osteomalacia**. Investigations of arsenic accumulation in animal models have demonstrated that speciation of trace elements potentially may alter toxicities of trace elements accumulated in uraemic patients. Conversely, the presence of uraemic toxins may also alter the uptake and toxicity of certain trace elements. Although research in uraemic patients has focused primarily on total concentrations of trace elements, the evolution of both inorganic and organic species should be considered separately.

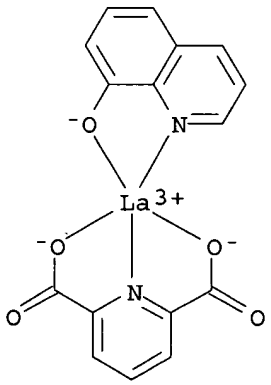
AN 2002-42056 DRUGU T S
TI Fosrenol (**lanthanum carbonate**) vs. calcium carbonate for the treatment of hyperphosphataemia: A comparison of the effects on **bone** using biopsy examination.
AU De Broe M E
CS Univ.Antwerp
LO Antwerp, Belg.
SO J.Am.Soc.Nephrol. (13, Abstr.Iss., 769A, 2002) 1 Tab. ISSN: 1533-3450
AV Department of Nephrology, University of Antwerp, Antwerp, Belgium.
LA English
DT Journal
FA AB; LA; CT
FS Literature
AB In this open-label study 98 patients with end-stage renal disease (ESRD) were randomized to receive either lanthanum carbonate (FOS, Fosrenol, Shire) or calcium carbonate (CA) for 50 wk. Both treatments were able to control phosphate levels and adverse events were similar in both groups, although hypercalcemia occurred more often in the CA-treated group. Given the potential association between hypercalcemia and metastatic calcification, FOS may represent a superior treatment for hyperphosphatemia compared with calcium-based agents. (conference abstract: Annual Meeting of the American Society of Nephrology, Philadelphia, Pennsylvania, USA, 2002).
TI Fosrenol (**lanthanum carbonate**) vs. calcium carbonate for the treatment of hyperphosphataemia: A comparison of the effects on **bone** using biopsy examination.
ABEX Methods 98 Patients with ESRD were randomized to either FOS (maximum dose of **lanthanum** 3.75 g/day) or CA (maximum dose of calcium 9 g/day) for 50 wk. **Bone** histomorphology was examined after double-labelled tetracycline administration at the start of the study and after 1 yr of treatment. Results. . .

L13 ANSWER 1 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN **105333-27-5** REGISTRY
CN Lanthanum, (2-pyridinecarboxylato-N1,O2)[2,6-pyridinedicarboxylato(2-)-N1,O2,O6]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2,6-Pyridinedicarboxylic acid, lanthanum complex
CN 2-Pyridinecarboxylic acid, lanthanum complex
MF C13 H7 La N2 O6
CI CCS
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

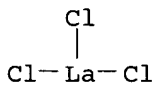
L13 ANSWER 2 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN **105333-26-4** REGISTRY
CN Lanthanum, [2,6-pyridinedicarboxylato(2-)-N1,O2,O6](8-quinolinolato-N1,O8)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2,6-Pyridinedicarboxylic acid, lanthanum complex
MF C16 H9 La N2 O5
CI CCS
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L13 ANSWER 3 OF 7 REGISTRY COPYRIGHT 2003 ACS

RN **10099-58-8** REGISTRY
CN Lanthanum chloride (LaCl3) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Lanthanum chloride
CN Lanthanum chloride (La2Cl6)
CN Lanthanum trichloride
CN Lanthanum(III) chloride
DR 12314-13-5
MF Cl3 La
CI COM
LC STN Files: AGRICOLA, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



2668 REFERENCES IN FILE CA (1962 TO DATE)
37 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2668 REFERENCES IN FILE CAPLUS (1962 TO DATE)
31 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L13 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN **7439-91-0** REGISTRY
CN **Lanthanum (8CI, 9CI)** (CA INDEX NAME)
DR 14762-71-1, 110123-48-3
MF La
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

La

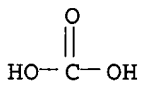
40408 REFERENCES IN FILE CA (1962 TO DATE)
3192 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
40430 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L13 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN **1312-81-8** REGISTRY
CN Lanthanum oxide (La2O3) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Dilanthanum oxide
CN Dilanthanum trioxide
CN Lanthana
CN Lanthanum oxide
CN Lanthanum sesquioxide
CN Lanthanum trioxide

CN Lanthanum(3+) oxide
CN Lanthanum(III) oxide
AR 12680-02-3
DR 162525-16-8
MF La2 O3
CI COM, MAN
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
12899 REFERENCES IN FILE CA (1962 TO DATE)
199 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12905 REFERENCES IN FILE CAPLUS (1962 TO DATE)
49 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L13 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN **587-26-8** REGISTRY
CN Carbonic acid, lanthanum(3+) salt (3:2) (8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Lanthanum carbonate (6CI, 7CI)
OTHER NAMES:
CN Lanthanum carbonate (2:3)
CN Lanthanum carbonate (La2(CO3)3)
CN Lanthanum sesquicarbonate
CN Lanthanum(3+) carbonate
AR 14475-16-2
MF C H2 O3 . 2/3 La
LC STN Files: ADISNEWS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DETHERM*, DRUGUPDATES, GMELIN*, IFICDB, IFIPAT, IFIUDB, MRCK*, MSDS-OHS, PHAR, PROMT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (463-79-6)

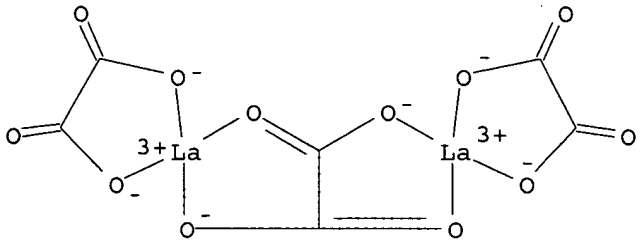


⊖2/3 La(III)

244 REFERENCES IN FILE CA (1962 TO DATE)
7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
245 REFERENCES IN FILE CAPLUS (1962 TO DATE)
21 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L13 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN **537-03-1** REGISTRY
CN Lanthanum, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Lanthanum oxalate (6CI)
CN Lanthanum, [.mu.-[ethanedioato(2-)-O,O''':O',O'']]bis[ethanedioato(2-)-O,O']di-

CN Oxalic acid, lanthanum(3+) salt (3:2) (8CI)
OTHER NAMES:
CN Ethanedioic acid, lanthanum(3+) salt (3:2)
CN Lanthanum oxalate (2:3)
CN Lanthanum oxalate (La2(C2O4)3)
CN Lanthanum sesquioxalate
CN Lanthanum(3+) oxalate
CN Lanthanum(3+) oxalate (2:3)
CN Tris(oxalato)dilanthanum
DR 131530-68-2
MF C6 La2 O12
CI CCS, COM
LC STN Files: CA, CAOLD, CAPLUS, CHEMCATS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPATFULL
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)




162 REFERENCES IN FILE CA (1962 TO DATE)
6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
162 REFERENCES IN FILE CAPLUS (1962 TO DATE)
24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

AN 89150599 MEDLINE
DN 89150599 PubMed ID: 3228613
TI Incorporation of 140-**lanthanum** into **bones**, teeth and hydroxyapatite.
AU Fernandez-Gavarron F; Huque T; Rabinowitz J L; Brand J G
CS Department of Biochemistry, Faculty of Medicine, U.N.A.M. Mexico D.F.
SO BONE AND MINERAL, (1988 Mar) 3 (4) 283-91.
Journal code: 8610542. ISSN: 0169-6009.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198904
ED Entered STN: 19900306
Last Updated on STN: 19900306
Entered Medline: 19890411
AB The incorporation of **lanthanum** in the form of 140-**lanthanum** onto the surface of teeth, **bone** and synthetic hydroxyapatite was investigated. A small amount of **lanthanum** was taken up by the surface of all of the materials studied regardless of their origin. The depth of penetration into **bone** and teeth was dependent upon **lanthanum** concentration and time of incubation and, in these experiments, ranged from an estimated 5 to 15 microns. An exchange of **lanthanum** for calcium in the apatite matrix may be responsible for increased resistance of the hard tissues to acid dissolution. The effects of pH, temperature, time and concentration of the lanthanum solutions on this incorporation were investigated. Possible clinical uses of this effect are discussed.

order

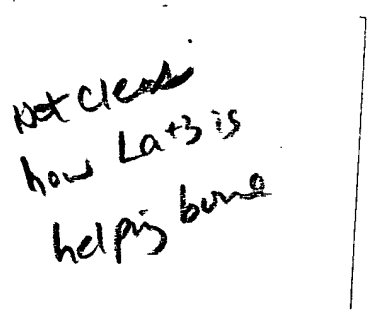
AN 1986:618548 CAPLUS
DN 105:218548
TI Studies on anti-inflammatory activity of some lanthanon complexes of bioactive organic molecules
AU Singh, Lal; Mohan, Govind; Parashar, R. K.; Tripathi, S. P.; Sharma, R. C.
CS Chem. Lab., Agra Univ., Agra, 282 004, India
SO Current Science (1986), 55(17), 846-8
CODEN: CUSCAM; ISSN: 0011-3891
DT Journal
LA English
AB The formation of the complexes between La and other transition metals, and compds. contg. N atoms [8-hydroxyquinoline (HQ), 2-picolinic acid (PIC) and pyridine-2,6-dicarboxylic acid (PDA)] are described. The formation of the La(III)-PDA-HQ [**105333-26-4**] and La(III)-PDA-Pic [**105333-27-5**] complexes are described. Of the complexes of transition metals with PDA and Pic, the La(III)-PDA-Pic complex was the most stable. The anti-inflammatory activity of the compds. was tested. The La(III)-PDA-HQ complex did not show any activity in the carrageenin-induced edema) but did show anti-inflammatory activity in the sub-acute model (cotton pellet granuloma) and the chronic model (formaldehyde-induced **arthritis**).

La — arthritis

Same as DrugU 1987-06492 (cited).

AN 96108266 MEDLINE
DN 96108266 PubMed ID: 8680806
TI A possible non-aluminum oral phosphate binder? A comparative study on dietary phosphorus absorption.
AU Graff L; Burnel D
CS Laboratoire de Chimie Generale Appliquee a la Medecine, Faculte de Medecine, Universite Henri Poincare, Nancy I, Vandoeuvre les Nancy, France.
SO RESEARCH COMMUNICATIONS IN MOLECULAR PATHOLOGY AND PHARMACOLOGY, (1995 Sep) 89 (3) 373-88.
Journal code: 9437512. ISSN: 1078-0297.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199608
ED Entered STN: 19960828
Last Updated on STN: 19970203
Entered Medline: 19960820
AB The aim of this study was to highlight a possible new non-aluminum phosphate-binder to limit hyperphosphatemia in patients with renal failure. Lanthanum chloride hydrate was evaluated as a dietary phosphate binder in rats. Aluminum chloride hexahydrate was evaluated as a reference. Animals were divided in five groups (6 animals per group): 1 control group (C), 2 aluminum groups (Al1 and Al2), receiving different doses of aluminum chloride hexahydrate and 2 lanthanum groups (La1 and La2), receiving different doses of lanthanum chloride hydrate. During the treatment, urine and stools were collected. At the end of the treatment animals were sacrificed and plasma and different organs were collected (liver, spleen, kidneys, brain and femur). To highlight the possible transfer of lanthanum in rat tissues, a long-term (100 days) study was carried with a high dose. At the end of the treatment, lanthanum determinations were carried out on several tissues (liver, spleen, kidneys, brain, femur and lungs). Determinations of phosphorus and calcium levels in plasma indicated that **lanthanum chloride** hydrate showed as good results as aluminum chloride hexahydrate. **Lanthanum chloride** hydrate significantly ($p < 0.01$) reduced the **bone** phosphorus burden. Decreases of urinary excretion and increases in fecal excretion of phosphorus indicated a severe phosphorus depletion in all treatments (Al and La). Unfortunately, in the long-term study, **lanthanum** traces could only be determined in the different tissues but not in plasma. However, in comparison with the equivalent aluminum treatment, the transfer of lanthanum was less important than aluminum transfer. Consequently, lanthanum could provide a possible alternative to aluminum.

AN 94119929 EMBASE
DN 1994119929
TI Metabolism of calcium and phosphorus in rats after continuous oral administration of lanthanum.
AU Hanioka N.; Jinno H.; Sekita H.; Toyo'oka T.; Ando M.; Kojima S.; Takeda M.
CS Division of Environmental Chemistry, Natl. Institute of Hygienic Sciences, 1-18-1 Kamiyoga,Setagaya-ku, Tokyo 158, Japan
SO Japanese Journal of Toxicology and Environmental Health, (1994) 40/1 (26-33).
ISSN: 0013-273X CODEN: JJTHEC
CY Japan
DT Journal; Article
FS 029 Clinical Biochemistry
046 Environmental Health and Pollution Control
052 Toxicology
LA English
SL English
AB In the present study, we examined the effects of a rare earth element, **lanthanum** (La) on the excretion into the urine and feces as well as the distribution of calcium (45Ca) and phosphorus (32P) in the liver, pancreas, spleen, kidney, lung, heart, thymus, brain, **bone** and blood of male rats. The experiments were performed using 5 rats in each group. **Lanthanum chloride** (**LaCl3**) was administered orally at a dose of 100 mg/rat/d as La for 5 weeks (La-A group). 45Ca and 32P were administered orally or intravenously once, and following the administration, the urine and feces were collected daily for 8 consecutive days. As a result, the amount of oral 45Ca and 32P excreted into the feces in the La-A group increased remarkably compared with that of the control group (41 .fwdarw. 91% and 26 .fwdarw. 99%, respectively), whereas 45Ca and 32P excreted into the urine in the La-A group was reduced (9.5 .fwdarw. 0.2% and 28 .fwdarw. 0.3%, respectively). However, the excretion patterns in the urine and feces and the distribution of 45Ca and 32P in the body of rats given La, were similar to those of the control rats after the stop of the La administration (La-B group). The levels of 45Ca and 32P in the body for 8 d after their administration was highest in the control group, followed by the La-B group, and lowest in the La- A group. Moreover, in the La-A group, the levels of 45Ca and 32P in each organ decreased by 1/2 to 1/75 compared with those in the control rats, but there was no significant difference between the control group and the La-B group. However, the excretion patterns in the urine and feces and the distribution of 45Ca and 32P in the La-A group was similar to those of the control group when 45Ca and 32P were administered intravenously. These results suggest that La inhibits the uptake of 45Ca and 32P temporarily, and that the action is reversible.



AN 93203030 MEDLINE
DN 93203030 PubMed ID: 1295872
TI **Lanthanum** tracer and freeze-fracture studies suggest that compartmentalisation of early **bone** matrix may be related to initial mineralisation.
AU Soares A M; Arana-Chavez V E; Reid A R; Katchburian E
CS Department of Histology and Embryology, University of Sao Paulo, Brazil.
SO JOURNAL OF ANATOMY, (1992 Oct) 181 ( Pt 2) 345-56.
Journal code: 0137162. ISSN: 0021-8782.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Space Life Sciences
EM 199304
ED Entered STN: 19930507
Last Updated on STN: 19930507
Entered Medline: 19930422
AB In adult bone the calcified matrix and enclosed osteocytes are separated from the extracellular space by a continuous layer of bone lining cells. It thus appears that bone matrix is compartmentalised and, as such, may constitute a 'milieu interieur' which is different from the general extracellular space. Since adult bone matrix is compartmentalised and matrix vesicles also form a microcompartment, it is conceivable that compartmentalisation, in early osteogenesis, may be a requirement for the initial events of the mineralisation process. We have therefore conducted an ultrastructural, tracer, and freeze-fracture study to determine the stage in which **bone** matrix becomes compartmentalised and also to find out whether there are tight junctions between **osteoblasts**. The results show that in early nonmineralised stages and in incipient mineralisation, **lanthanum** penetrates all intercellular spaces and the newly forming **bone** matrix which is rich in matrix vesicles and collagen. With the progression of mineralisation, when all matrix vesicles appear mineralised and calcification is 'spreading' to the surrounding matrix, **lanthanum** is restricted to intercellular spaces and conspicuous macular tight junctions are present between **osteoblasts**. We suggest that matrix vesicles act as microcompartments for calcification when the early **bone** matrix is in continuity with the surrounding extracellular space. In later stages, when **lanthanum** fails to penetrate the matrix, matrix vesicles may no longer be necessary because the **bone** matrix itself is compartmentalised, thus allowing for localised changes in composition that might favour mineral deposition.

Not clear
Lat3 is
it helping

AN 1980:465265 CAPLUS
DN 93:65265
TI A novel stromal cell type in rat marrow recognizable by its preferential uptake of lanthanum
AU Tavassoli, Mehdi; Aoki, Makoto; Shaklai, Matityahu
CS Scripps Clin. Res. Found., La Jolla, CA, 92037, USA
SO Experimental Hematology (New York, NY, United States) (1980), 8(5), 568-77
CODEN: EXHMA6; ISSN: 0301-472X
DT Journal
LA English
AB A novel stromal cell type is described in rat bone marrow. It is distinguishable from other stromal cells (macrophages, reticular cells, etc.) by its preferential uptake of the electron dense tracer lanthanum nitrate, which can then serve as a marker for this cell type. In low concn. of La, this cell type is the only marrow cell that takes up the tracer. Other stromal cells do not take it up even in high concn. This novel stromal cell type is assocd. with both erythropoietic and granulopoietic areas of the marrow tissue. Its branching cytoplasm is very light in d. and contains no characteristic cytoplasmic organelles. Its function is not yet known.

AN 1987:12177 CAPLUS
DN 106:12177
TI Determination of trace amounts of lanthanum in animal tissues, especially in teeth and bones
AU Ishiguro, Yoshio; Goto, Kazuo; Kobayashi, Yasuko; Nakashima, Ryozo; Shibata, Shozo
CS Gov. Ind. Res. Inst., Nagoya, 462, Japan
SO Nagoya Kogyo Gijutsu Shikensho Hokoku (1986), 35(3), 97-101
CODEN: NKGSAR; ISSN: 0027-7614
DT Journal
LA Japanese
AB Following the topical application of a La-contg. soln. to rat teeth, La was detd. in teeth and **bones** by emission spectroscopy (ES) after digestion of the biol. sample with a HNO3-perchloric acid mixt. La was pptd. as lanthanum oxalate **[537-03-1]** together with Ca oxalate from these 2 biol. samples. La oxalate was extd. with TTA (4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione into 4-methyl-2-pentanone, back-extd. into HNO3 (1M) and then detd. by ES.

AN 1991:435680 CAPLUS
DN 115:35680
TI Long-term behavior of active glasses in sheep mandibular bone
AU Gatti, A. M.; Zaffe, D.
CS Sch. Dent., Univ. Modena, Italy
SO Biomaterials (1991), 12(3), 345-50
CODEN: BIMADU; ISSN: 0142-9612
DT Journal
LA English
AB Granules of a glass (A) prepd. according to Hench's formula and a new vitreous material for biol. applications (AKRA 15) were used for repair of bone defects in the dental field. The behavior of these materials implanted in holes drilled in sheep's mandibular bone was examd. 4, 8, 12 mo after implantation. Microradiog. analyses, optical and scanning electron microscopic observations, and x-ray microprobe evaluations were carried out using undecalcified, methacrylate-embedded sections of the jaw contg. the granules. After 1 yr the granules of A disappeared, but not important bone growth was obsd. also in the holes contg. AKRA 15. SEM and microprobe showed: disappearance of Na and Si ions at different stages; increase of P and Ca up to 4 mo and then decrease, but in different ways in the 2 glasses; unexpected appearance of K ions after 4 mo only in AKRA 15.
IT 1309-37-1, Ferric oxide, biological studies **1312-81-8**, Lanthanum oxide (La2O3) 1313-99-1, Nickel oxide, biological studies 1314-61-0, Tantalum oxide (Ta2O5) 1333-82-0, Chromium trioxide
RL: BIOL (Biological study)
(glasses contg., behavior of, in mandibular **bone**, dental materials in relation to)

AN 1999:624694 CAPLUS
DN 131:233614
TI Apatite glass ceramics for use as bone substitutes
IN Carl, Gunter; Habelitz, Stefan; Jana, Carsten; Moisescu, Cornelia; Ruessel, Christian
PA Hermsdorfer Institut fuer Technische Keramik e.V., Germany
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI DE 19812278 | A1 | 19990923 | DE 1998-19812278 | 19980320 |
| PRAI DE 1998-19812278 | | 19980320 | | |

AB An apatite glass ceramic with oriented needlelike apatite crystals and improved mech. properties is provided as a substitute for human hard tissues, esp. bone. The glass ceramic has the compn. SiO2 20-50, Al2O3 8-25, CaO 6-20, P2O5 6-20, F- 4-10, and R2O 6-20 wt.% (R = alkali metal). The oriented apatite crystals increase the mech. strength of the glass ceramic and mimic the structure of human hard tissues. Thus, a glass contg. SiO2 28.2, Al2O3 19.3, CaO 18.9, P2O5 6.0, F- 9.0, and Na2O 18.6 wt.% was melted at 1500.degree., heat-treated for 1 h at 1300.degree., and extruded at 780.degree. and 12.4 MPa. The resulting glass ceramic contained needle-shaped crystals 1-2 .mu.m long with an aspect ratio of 10:1.

IT **1312-81-8**, Lanthanum oxide 1314-11-0, Strontium oxide, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(contrast agent; apatite glass ceramics for use as **bone** substitutes)

AN 1994:548401 CAPLUS
DN 121:148401
TI Preventive effect of rare earths against dental caries (1) some rare earths inhibited the adherence of streptococcus sobrinus to test tubes.
AU Miyauchi, K.; Kobayashi, Y.; Hosoe, H.; Shimano, R.
CS Faculty General Education, Aichigakuin University, Aichi, 470-01, Japan
SO Kidorui (1994), 24, 72-3
CODEN: KIDOEP; ISSN: 0910-2205
DT Journal
LA Japanese
AB Adherence of oral bacteria to tooth surface and/or tissue is one of the most crit. events in the development of dental caries and **periodontal diseases**. Although bacterial adherence can be facilitated by several mechanisms, water-insol.-glucan mediated interaction is thought to be most commonly assocd. with the etiol. of dental diseases. The effect of rare earths for adherence of S. sobrinus to smooth glass or polystyrene surfaces has been studied. Inhibition effect of rare earths against glucocyltransferase (GTase) activity also studied. The result showed that most of all nitrates of rare earth inhibited the adherence of viable cell at 1.16.times.10-4mol/L;killed cell adherence was inhibited by nitrates of La, Ho and Er. Nitrates of Sm, Ho and Er at 4.6.times.10-4mol/L inhibited GTase activity by 53.apprx.62%.

AN 1991:520085 CAPLUS
DN 115:120085
TI Radiolabeled iron hydroxide colloid compositions, their use and process for their preparation
IN Simon, Jaime; Cooper, Lance A.; McMillan, Kenneth; Wilson, David A.
PA Dow Chemical Co., USA
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9109622 | A1 | 19910711 | WO 1990-US7522 | 19901218 |
| | W: CA, JP | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE | | | | |
| | US 5061476 | A | 19911029 | US 1989-458049 | 19891227 |
| | CA 2046308 | AA | 19910628 | CA 1990-2046308 | 19901218 |
| | EP 460205 | A1 | 19911211 | EP 1991-903521 | 19901218 |
| | EP 460205 | B1 | 20020424 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| | JP 04505023 | T2 | 19920903 | JP 1991-503520 | 19901218 |
| | JP 3155273 | B2 | 20010409 | | |
| | AT 216596 | E | 20020515 | AT 1991-903521 | 19901218 |
| PRAI | US 1989-458049 | A | 19891227 | | |
| | WO 1990-US7522 | W | 19901218 | | |

AB Radiolabeled colloid compns. for the treatment of arthritis comprise spherical aggregation of radioactive metal in iron hydroxide particles. The compns. are prepd. (1) by prepg. an iron hydroxide colloid by pptg. an iron soln. with an alkali metal hydroxide and (2) sorbing onto the colloid a radionuclide of Sm-153, Ho-166, In-115m, Y-90, Gd-159, La-140, Lu-177, or Yb-175. The compn. at 500-150,000 rads is administered to the synovium of a joint. The colloids prepd. by the sorption process remain in the synovium better than similar entrapped radionuclide formulations prepd. by the copptn. process. To 0.3 mL of Fe(OH)2 colloid prepd. by treating FeSO4 soln. with NaOH soln. was added 30 .mu.L of Sm-153 soln. in 0.1 HCl with stirring to give a colloid, which was injected (100 .mu.L) into the synovium of stifle of the hind leg in a rabbit; greater than 99% of the injected dose of radioactivity remained in the synovium with no leakage into surrounding tissues during 4 h period.